

Please complete and submit this ATLAS Standard Form to ATLAS RHA Coordinator ([ARC](#)), at least 2 weeks after the date of the test.

1. General information:

1.1	Date of the test:	April 10,2003
1.2	Pre-selection, or Qualification? (specify)	Qualification
1.3	Name of the ATLAS (or other) System:	Atlas Muon CSC
1.4	Name of the board in the System:	ASMII
1.5	Person responsible for the test:	Anand Kandasamy
1.6	Institute:	BNL
1.7	Email:	anand@bnl.gov
1.8	Person responsible for RHA of the Board:	M.Denton
1.9	Institute:	
1.10	Email:	

2. Component:

2.1	Name:	ASM2MUX
2.2	Part Number:	
2.3	Type (see section 10.1):	Digital Multiplexor
2.4	Function (see section 10.1):	Digital Multiplexing
2.5	Main specification of the component:	
2.6	Design (specify: COTS/ASIC):	ASIC
2.7	Design center (if known):	BNL
Manufacturer:		
2.8	Name of the manufacturer:	Agilent
2.9	Address of the manufacturer (if known):	
2.10	Phone of the manufacturer (if known):	
2.11	Email of the manufacturer (if known):	
2.12	Web URL of the manufacturer (if known):	
Sampling:		
2.13	Number of tested components (irradiated):	4
2.14	Number of reference components (un-irradiated):	1
Batch origin:		
2.15	Batch origin (Homogeneous/Unknown):	Homogeneous
2.16	Manufacturing date code (for homogeneous batch):	
2.17	Manufacturing line code (for homogeneous batch):	
Technology:		
2.18	Name of the technology (if known):	HP AMOS14TB
2.19	Technology (CMOS/BiCMOS/Bipolar/AsGa/Other):	CMOS
2.20	Minimum geometry (μm) :	0.5
Package:		
2.21	Type:	QFP
2.22	Part number:	
2.23	Number of pin:	44
2.24	Ceramic ? Plastic ? hybrid ? (specify)	Plastic

3. Radiation:

3.1	Name of the radiation facility:	Prospero
3.2	Address of the radiation facility:	France
3.3	Radiation source (see 10.2) :	Reactor
3.4	Radiation type (see 10.2) :	Neutron
3.5	Radiation energy (MeV) :	0.75MeV
3.6	Flux (1 MeV eq. n/cm ² per second) :	2.2E10n/cm ² per sec
3.7	Total fluence after last step (1 MeV eq. n/cm ²) :	7E13n/cm ²
3.8	Total dose (if any) after last step (Gray) :	
3.9	Dosimetry / Calibration method:	

4. Radiation test method (see 10.3):

4.1	ATLAS Standard NIEL Test Method?	Yes
4.2	Other NIEL test method (specify)?	

5. Total fluence:

If several irradiation steps are applied on components placed at the same location, or if several components are placed at different locations during irradiation, give the value of the neutron fluence (1 MeV eq. n/cm²) reached after each step (or at each location). In case of only one irradiation step and one location, fill 5.1 only.

5.1	5.2	5.3	5.4	5.5
Step (location) # 1	Step (location) # 2	Step (location) # 3	Step (location) # 4	Step (location) # 5
7E13n/cm ²				

6. Electrical measurement:**During irradiation:**

6.1	Did you perform on-line measurements (Y/N) ?	No
6.2	If "yes" to 6.1, describe on-beam measurements:	

After irradiation:

6.3	Did you perform electrical measurements after irradiation (Y/N) ?	Yes
6.4	If yes to 6.3, how long time after the end of the irradiation (roughly) ?	7Weeks
6.5	If "yes" to 6.3, describe post-irradiation measurements:	

7. Rejection criteria:

	Measured electrical parameter	Rejection Criteria
7.1	Functionality	Functional failure
7.2		
7.3		
7.4		
7.5		

8. Results:

	8.1	8.2	8.3	8.4
	Serial number of the device under test	Max. applied fluence (see 10.4)	Failure fluence if any during irradiation (see 10.4)	Failure mechanism (if any): for component “dead” or out of specification, give explanations and numbers
1	F	7E13n/cm ²	No	
2	G	7E13n/cm ²	No	
3	H	7E13n/cm ²	No	
4	I	7E13n/cm ²	No	
5	J	7E13n/cm ²	No	
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9. Comments

Use the space below to comment test results, or to report them if the above-dedicated space is inappropriate for you.

10. Guidelines

10.1 Type and Function

Type	Function
Analogue device	ADC; Analogue memory; Analogue multiplexor; DAC; LVDS driver; LVDS receiver; Modulator/Demodulator; Voltage/Frequency converter
Data transmission Component	Receiver; Transceiver; Transmitter
Front-end electronic device	Drift Time Measurement; Multiple functions; Readout memory
Linear device	Amplifier; Comparator; Operational amplifier; Voltage reference;
Memory	SRAM
Microprocessor or peripheral	Microcontroller; Microprocessor
Optoelectronic component	Laser; Light emitting diode – LED; PIN diode; VCSEL
Power device	DC-DC converter; Power transistor; Voltage regulator
Programmable device	EEPROM; FPGA; Lookup table; Programmable delay
Passive component	Capacitor
Interfaces/Communication	LVDS; Switch
Mixed A/D device	Multiple functions
Logic gates	NOR, NAND, etc.

10.2 Radiation source and type

Source of radiation	Type of radiation
Accelerator	Electron, proton, spallation neutron
Am-241	Ions (fission products)
Cf-252	Ions (fission products)
Co-60	Photon gamma 1.173 MeV and 1.332 MeV
Cs-137	Photon gamma 0.662 MeV
Cyclotron	Proton, ion (specify), spallation neutron
Reactor	Neutron
Tandem accelerator	Protons, ions
Van-de-Graaf	Electron
X-Ray generator	Photon X

10.3 Radiation test methods:

see ATLAS Policy on Radiation Tolerant Electronics rev. 2, pp. 20-26

http://atlas.web.cern.ch/Atlas/GROUPS/FRONTEND/WWW/RAD/RadWebPage/ATLASPolicy/APRTE_rev2_250800.pdf

10.4 Maximum fluence and failure fluence:

Unit = 1 MeV equivalent n/cm².